(i) an effective amount of at least one supplement selected from the group consisting of a cytotoxin or cell proliferation inhibiting compound, an osteogenic compound, a cartilage inducing compound, an antibiotic, an anesthetic, an anticoagulant compound, an anti-inflammatory compound, a cardiovascular drug, a protease inhibitor, and a steroid; and

(ii) a biocompatible tissue sealant composition comprising fibrinogen [, or a derivative or metabolite thereof selected from the group consisting of fibrinopeptide A and fibrinopeptide B,] in an amount which forms a fibrin matrix;

wherein said fibrinogen, or said derivative or metabolite thereof, will form a fibrin matrix when [hydrated under suitable conditions] in the presence of thrombin and Ca^{++} and water, and

further wherein said supplement is delivered from said fibrin matrix into the external environment of use for a sustained period , and

further wherein said effective amount of said supplement is greater than the amount which is soluble in said fibrin matrix , and

further wherein said sustained period is greater than the period obtained according to simple diffusion kinetics.

18. (Three times amended) The delivery system of claim 12, 34 or 36, wherein said supplement is selected from the group consisting of an antibiotic, a chemotherapeutic drug, a protease inhibitor, and an antifibrinolytic compound and interacts with said fibrin matrix and so [retards degradation] increases the longevity of said fibrin matrix in said external environment of use, thereby permitting localized, sustained-release of said supplement.

34. (Amended) A supplement delivery system comprising:

(i) an effective amount of at least one supplement selected from the group consisting of an analgesic, an antifungal compound, an [anti-angiogenic compound] antiangiogenin, an antifibrinolytic compound, an antimicrobial compound, an antiparasitic agent, an antiseptic, an antiviral compound, a chemotherapeutic drug, a lipid or liposome, an oligonucleotide or polynucleotide, a polysaccharide, a vasoconstrictor, a vasodilator, a vitamin, a nutritional supplement and a mineral; and

(ii) a biocompatible tissue sealant composition comprising fibrinogen, or a derivative or metabolite thereof selected from the group consisting of fibrinopeptide A and fibrinopeptide B, in an amount which forms a fibrin matrix;

D3

wherein said fibrinogen, or said derivative or metabolite thereof, will form a fibrin matrix when [hydrated under suitable conditions] in the presence of thrombin and $Ca^{++}$and water, and

further wherein said supplement is delivered from said fibrin matrix into the external environment of use for a sustained period , and

further wherein said amount of said supplement is greater than the amount which is soluble in said fibrin matrix , and

further wherein said sustained period is greater than the period obtained according to simple diffusion kinetics.

35. (Amended) The delivery system of claim 12, 34 or 36, further comprising at least one agent selected from the group consisting of an antibiotic, a chemotherapeutic drug, a protease

inhibitor, and an antifibrinolytic compound that stabilizes said fibrin matrix and so [retards degradation] ~~increase~~ increases the longevity thereof in said external environment of use.

36. (Amended) A supplement delivery system comprising:

(i) an effective amount of at least one supplement selected from the group consisting of a growth factor, an osteogenic protein, a cartilage inducing protein, an antimicrobial protein, an anticoagulant protein, an antibody, an [anti-angiogenic protein] antiangiogenin, a proteoglycan, a protease inhibitor, a polypeptide, an antifibrinolytic protein, an interferon, a hormone and a cytokine; and

(ii) a biocompatible tissue sealant composition comprising fibrinogen [, or a derivative or metabolite thereof selected from the group consisting of fibrinopeptide A and fibrinopeptide B,] in an amount which forms a fibrin matrix;

wherein said fibrinogen, or said derivative or metabolite thereof, will form a fibrin matrix when [hydrated under suitable conditions] in the presence of thrombin and Ca^{++} and water, and

further wherein said supplement is delivered from said fibrin matrix into the external environment of use for a sustained period , and

further wherein said sustained period is greater than the period obtained according to simple diffusion kinetics.